

# **Distributed Energy (DE) Program**

## **Western Regional Office Activities**

### **Projects by State**

#### **Alaska**

##### **Distributed Energy Road Shows, 2003**

DE Road Shows in December 2003 to Anchorage and Fairbanks. These shows help to establish fire, building, and electric codes for natural gas and hydrogen as fuels, and the technologies such as fuel cells and micro turbines that use them. For more information, please visit the USDOE Distributed Energy Road Shows webpage at:

[http://www.eere.energy.gov/de/deployment/dep\\_road.shtml](http://www.eere.energy.gov/de/deployment/dep_road.shtml)

#### **Arizona**

Currently seeking opportunities.

#### **California**

##### **Southwest Combined Heat and Power Regional Application Center Network, 2003 and 2004**

The Southwest Combined Heat and Power (CHP) Regional Application Center (SWAC) network will provide information exchange, education, and technical assistance to potential CHP users in the southwestern United States: California, Arizona, Nevada, Hawaii, and the Pacific territories. This includes providing site assessment, and project screening tools and services. In addition to identifying and facilitating high impact CHP projects, the SWAC network also will work to identify and remove regulatory, policy, and other obstacles to CHP deployment. The SWAC network will be based at three California universities, but it will involve collaboration with regional stakeholders in the areas of distributed energy and CHP. Once established, the network plans to expand and collaborate with universities in the other states and territories. Please visit the Pacific Region Application Center at: <http://www.chpcenterpr.org> for more information

##### **Advance Combined Heat and Power Technologies for Federal Facilities, 2002**

This project will evaluate the feasibility and facilitate the implementation of advanced combined heat and power technologies in Federal sites. Activities will be conducted at Federal sites within the State of California, selected for their technical characteristics and highly replicable within the Federal sector.

#### **Hawaii**

##### **“DER in Regulated and Competitive Markets” Workshop, 2004**

The State of Hawaii held a workshop on August 24, 2004 in Honolulu to examine the regulatory challenges to achieving a greater and successful penetration of DE and CHP in Hawaii. The workshop focused on issues related to utility planning and regulation, allocation of costs among stakeholders, how to identify win-win-win ways of deploying DE, and issues related to DE interconnection and standby charges

##### **Managing High Saturation of DE as a Micro grid, 2002**

The objective of this project is to identify the types, sizes, and locations of DE technologies that could reduce energy costs and improve the quality of electric service on the Island of Hawaii.

The project will evaluate different DE combinations in an effort to optimize the Hawaii Electric Light Company (HELCO) network in order to produce lowest electricity costs, highest reliability and power quality, optimized operations, and emission levels. It also will examine the symbiotic relationship between existing generating assets (firm and unscheduled resources); known proposed firm and unscheduled resources; new DE, electric system assets; and customer load characteristics to offer a glimpse of the power system of the future and determine the potential for DE; and will identify the operational constraints on DE and penetration limits of DE.

### **Evaluating Bulk Energy Storage to Relieve Transmission Congestion on the Island of Hawaii, 2002**

The purpose of this project is to evaluate the ability of energy storage to alleviate electricity transmission and reliability issues on the Big Island of Hawaii, which are expected to increase due to the projected growth in the use of distributed energy resources and renewable energy. It is postulated that bulk energy storage located at strategically placed nodes on the transmission network could result in a more robust electrical system that is inherently more flexible, especially for non-dispatchable renewable generation.

### **Natural Energy Laboratory of Hawaii's DE Center, 2002**

The goal of the project is the acceleration of development, integration, deployment and commercialization of distributed generation technologies. This will be achieved through multi-efforts to be undertaken by NELHA and its partners and contractors. Funding will be used for: 1) Applied research and development of unique energy generation systems (New Mexico Technology); 2) Development and implementation of a Business/Action Plan to create a hydrogen technology cluster in the State of Hawaii and identification of partnering and funding opportunities to sustain ongoing efforts (Hawaii Natural Energy Institute with subcontractor Sentech, Inc.), and 3) Development and implementation of Public Outreach and Education Programs that will enhance public awareness and acceptance of distributed energy technologies (The Kohala Center).

### **DE Interconnection Workshop, 2001**

A "Workshop on Interconnecting Distributed Energy" was held on December 12 and 13, 2001 at the Sheraton Waikiki Hotel in Honolulu and was sponsored by USDOE, the State of Hawaii, and the Interstate Renewable Energy Council. Over 180 attended this workshop that described interconnection of distributed energy systems and how they meet a facility's electricity, cooling, heat, reliability, cost, and power quality needs while contributing to Hawaii's energy security.

### **Creating Distributed Energy Opportunities in Hawaii, 2001**

This project will identify regulatory, technical, and social barriers to increasing the use of DE technologies in Hawaii, and report on actions that need to be taken to the Governor, the Legislature, the four County Councils, the Hawaii Public Utilities Commission and other regulatory agencies, as well as interested stakeholders.

## **Idaho**

Currently seeking opportunities.

## **Nevada**

### **Distributed Energy Outreach, 2001**

This project will be promoting small-scale wind generation as a distributed energy resource to help reduce irrigation costs for farmers at the Nevada Land Use Summit 2002.

## **Oregon**

### **Combined Heat and Power: Investment Grade Technical Assistance, 2003**

The objective of this project is to co-fund investment grade analysis of five combined heat and

power (CHP) systems being considered in Oregon over the next 12 months, beginning June 2003. Examples of sites include industry, natatoriums, offices, and lodging. Upon completion of projects, measurement and performance verification will occur. That data will be used to provide a compelling case for adoption of future projects.

### **Distributed Energy Road Shows, 2002**

The USDOE and Bonneville Power Administration co-hosted two one-day workshops in Portland and Eugene for building code inspectors, fire marshals, and utility interconnection engineers to learn about the installation, interconnection, and operation of new energy technologies. For more information, please visit the USDOE Distribute Energy Road Shows webpage at: [http://www.eere.energy.gov/de/deployment/dep\\_road.shtml](http://www.eere.energy.gov/de/deployment/dep_road.shtml).

### **Oregon Combined Heat and Power Demonstration, 2002**

The purpose of this project is to inform Oregon business and industry of the viability of distributed technology by demonstrating its commercial application. This project will be a demonstration springboard to promote appropriate CHP applications to commercial, institutional and industry users statewide.

### **Resource Efficient Developments & Irrigation, 2001**

The goal of this project is saving energy and water through a comprehensive approach with new housing and commercial developments and under-tapped opportunities such as high-performance appliances, highly efficient heating systems, resource-efficient irrigation systems and renewable resource technologies. These measures extend the efficiency of the buildings beyond Energy Star® standards and they're more comprehensive: They deal with multiple resource efficiency issues and sustainability. The project will create a model program that communities state- and nationwide can use to adopt water and energy efficiency as a clean and cheap option as they deal with growth. The project will achieve an estimated 11,000 MMBtu in energy savings and 263 million gallons in water savings per year in four test cities. We will work with other environment-related state agencies and environmental organizations to spread the refined approach to additional cities statewide.

## **Washington**

### **Combined Heat and Power Policy Forum, 2004**

The Center for Smart Energy and the [Washington State Department of Community, Trade and Economic Development](#) will conduct an "Action Planning Forum", to be held September 15<sup>th</sup>, 2004 in Portland, OR, to bring regional CHP leaders together in a meeting designed to 1-identify priorities, 2-build teams to move those priorities forward, 3-create an action plan with priorities, and 4-generate a follow-on document that will help keep attendees on track while providing a tool to recruit additional people to the cause.

### **Combined Heat and Power Workshop, 2004**

The [Washington State University Energy Program \(WSUEP\)](#), as leader of the Northwest CHP Application Center, will conduct a technical CHP training workshop. It will be located at Irvine, CA in cooperation with the CHP Pacific Regional Application Center (PRAC). The topics covered will be waste heat to power systems (organic rankine cycle and kalina) and HEATMAP CHP. The workshop will be for 2 ½ days and may be conducted in coordination with another event such as one put on by the Southwest CHP Initiative. The WSUEP will develop the training program agenda and materials, obtain presenters, and provide coordination, through the Northwest CHP Application Center.

### **Northwest Regional Combined Cooling, Heating, and Power Applications Center, 2003 and 2004**

The Washington State University Energy Program (WSUEP) will manage a Combined Cooling,

Heating and Power (CHP) Applications Center to serve the needs of Alaska, Idaho, Oregon, Montana, and Washington. The Center plans to be an important resource for those interested in developing or advancing CHP projects in the region. To facilitate the development and successful operation of a broad range of CHP technologies and projects, it will develop a comprehensive education and outreach program. The Center will also seek to identify technically and economically viable opportunities for CHP implementation. It will screen projects using the results of baseline assessments and other available information. Then, it will support the development of specific "high impact" projects by providing assistance and conducting site assessment visits. For more information, please visit the [Washington State University Energy Program \(WSUEP\)](#) website.

### **CHP Energy District Study, 2002**

The USDOE Western Regional Office is working with Washington State University Energy Program, Seattle City Light, Vulcan, Inc., and other interested parties to determine feasibility of a one square mile district energy system in the South Lake Union District of Seattle. An energy district is a local, centralized production and distribution system that offers the potential to reduce future distribution capacity infrastructure costs, promote sustainability, increase electric reliability, and provide a new revenue source for the owner(s) of the system. A biotech research community is envisioned for S. Lake Union, with the energy district playing a key role in facilitating the development of this project.

### **CHP in the Pacific Northwest, Report, 2002**

#### **Energy and Environmental Analysis (formerly Energy International, Inc) is**

The results of this assessment are intended to provide regional stakeholders with an overview of the current installed capacity of CHP resources in the four Pacific Northwest states of Washington, Oregon, Idaho, and Alaska, as well as the technical and economical potential for future CHP installations in this region. This assessment also addresses the regulatory, institutional, and market barriers and incentives to CHP development in the PNW.

### **Combined Heat and Power in the Pacific Northwest Workshop, 2002**

On October 15, 2002, the U.S. Department of Energy and Washington State University Energy Program (WSUEP) Center for Distributed Generation and Thermal Distribution held a one-day workshop/conference designed to discuss the issues and opportunities for using CHP in the Pacific Northwest states of Alaska, Idaho, Oregon, and Washington. For more information, go to: [Washington State University Energy Program \(WSUEP\)](#)

### **Distributed Energy Road Shows, 2002**

USDOE and Bonneville Power Administration co-hosted a one-day workshop in Seattle for building code inspectors, fire marshals, and utility interconnection engineers to learn about the installation, interconnection, and operation of new energy technologies. For more information, go to the USDOE Distributed Energy Road Shows webpage at: [http://www.eere.energy.gov/de/deployment/dep\\_road.shtml](http://www.eere.energy.gov/de/deployment/dep_road.shtml)

### **Distributed Energy Technical Assistance, 2001**

Explore potential for feasibility study for proposed energy district near downtown Seattle. Examine natural gas supplies, economic impacts of proposed system, assess stakeholder support for project.

## **Combined Heat and Power (CHP) Initiatives**

### **Pacific Northwest Combined Heat and Power Initiative (PNWCHPI) – Alaska, Idaho, Oregon, Washington**

The USDOE Western Regional Office is working with federal and state energy offices, private industry, universities, and utilities on a Pacific Northwest CHP Initiative. This consortium will address technical, economic, and regulatory barriers to CHP implementation. The primary goal of the Initiative is to get more CHP installed. A website will be developed.

### **Pacific Southwest Combined Heat and Power Initiative (PSWCHPI) – Arizona, California, Hawaii, Nevada**

CHP advocates in these Southwestern states have created a coalition of public and private groups whose mission is to “increase the development and use of cost-effective and environmentally preferred combined cooling, heating and power technologies throughout the Pacific Southwest region”. Please visit the Pacific Southwest Combined Heat and Power Initiative Website for more information at: <http://www.pswchpi.org>.

## **Funding and Marketing Opportunities**

Funding opportunities are found on Western Regional Office “Financial Opportunities” webpage, on various state websites such as the California Energy Commission and the U.S. DOE’s e-Center.

Do you have a new energy technology? Here’s a few websites to help get your product into the market:

[USDOE FEMP New Technology Demonstration Program](#)  
[California Energy Commission’s PIER Program](#)  
[USDOE Inventions and Innovations Page](#)

## **Links to DE Information**

U.S. Department of Energy Distributed Energy Website  
United States Combined Heat and Power Association  
Federal Energy Management Program DER/CHP  
[Northwest Power and Conservation Council](#)  
Federal Energy Regulatory Commission (FERC)  
Bonneville Power Administration  
Western Area Power Administration  
Database of State Incentives for Renewable Energy (DSIRE)  
International District Energy Association  
U.S. Environmental Protection Agency Combined Heat and Power Partnership

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